LHMP ANNEX
City of Fremont, California

Introduction

The City of Fremont is the fourth largest city in the Bay Area and second largest in Alameda County, California. According to the most recent census, the City had a population of just over 203,000 in the year 2000[1]. More recent estimates by the California State Department of Finance placed the population at 209,100 in 2004. The City's budget in FY 2004/05 is $116,271,000, and the total number of employees, represented as full-time equivalent positions, is 892.30. The City provides both local police and fire services.

The Planning Process

This process of preparing this plan was familiar to the City of Fremont. The City has a Safety Element to its General Plan, last updated in 1995, that includes a discussion of fire, earthquake, flooding, and landslide hazards. In addition, the City routinely enforces the requirements of the California Environmental Quality Act (CEQA), which, since 1988, have required mitigation for identified natural hazards. The City's effort has focused on building on these pre-existing programs and identifying gaps that may lead to disaster vulnerabilities in order to work on ways to address these risks through mitigation.

Many of the activities conducted by the City were fed into the planning process for the multi-jurisdictional plan. The City participated in various ABAG workshops and meetings, including the general "kick-off" meeting. In addition, the City has provided written and oral comments on the multi-jurisdictional plan. Finally, the City provided information on facilities that are viewed as "critical" to ABAG.

Key City staff met on several occasions to identify and prioritize mitigation strategies appropriate for the City. Staff involved in these meetings included the Planning Director, Building Official, City Engineer, Risk Manager, Intergovernmental Relations Manager, Fire Division Chief in charge of emergency operations, and Public Buildings Superintendent, as well as a retired firefighter who now volunteers for the department as an emergency preparedness planner. At these meetings, staff discussed the City's general priorities and identified preliminary budgets and potential funding sources for strategies designed as "High" priority. The City provided the opportunity for the public to comment on the DRAFT mitigation strategies selected by City staff by placing the strategies on the City's website. The resolution adopting the plan and strategies was on the July 5, 2005, City Council agenda. The mitigation strategies may become an implementation appendix to this Safety Element.

Hazard and Risk Assessment

The ABAG multi-jurisdictional Local Hazard Mitigation Plan, to which this is an Annex, lists nine hazards that impact the Bay Area, five related to earthquakes (faulting, shaking, earthquake-

[1] For complete Census information on this city, see **http://www.bayareacensus.ca.gov/**.

induced landslides, liquefaction, and tsunamis) and four related to weather (flooding, landslides, wildfires, and drought). All of these hazards also impact this community.

While the City has undertaken a number of general hazard mapping activities since the first Safety Element was prepared by the City, all of these maps are less detailed and are not as current as those shown on the ABAG website at http://quake.abag.ca.gov/mitigation/.

The City had a notable large landslide in 1998 on the east side of the City near Mission Peak. The landslide did not damage any homes. However, a landslide assessment of the general area in the vicinity of the toe of this landslide, covering approximately 1250 parcels, identified 97 parcels that were potentially relatively more at risk from future recurring landslide hazards. The City Council consequently revised the entire hillside ordinance to cover all 11,000 hill parcels. The ordinance now requires additional appropriate geotechnical peer review for landslide hazard when development or permit activity occurs in this area.

The impact of tsunamis is currently unknown. While the current Tsunami Evacuation Planning Maps do not show a hazard in the City, this is because the area has not been mapped. Researchers are currently examining the impact of tsunamis in the East Bay. Preliminary work, as indicated in the ABAG multi-jurisdictional plan, appears to show that the run-up elevation would be from 10% to 50% of that at Ocean Beach in San Francisco. If so, many areas of the City with elevations of less than 21 feet would be inundated by water. However, the research is not published and is extremely preliminary. No further work on the tsunami hazard is possible in Fremont until the maps are completed and published.

Information on disasters declared in Alameda County is at
http://quake.abag.ca.gov/mitigation/disaster-history.html.

The City examined the hazard exposure of City urban land based on the information on ABAG's website at **http://quake.abag.ca.gov/mitigation/pickdbh2.html**. Of the 23,472 urban acres in the City,

- 1,180 acres are in the 100-year flood plain, while an additional 1,354 acres are in other flood-prone areas;
- 14,203 acres are subject to dam inundation;
- 238 acres are in areas of existing landslides;
- 11,145 acres are in areas of moderate, high, or very high liquefaction susceptibility per ABAG;
- 23,371 acres are in the highest two categories of shaking potential, in large part because the Hayward fault runs through the eastern portion of the City per ABAG;
- 940 acres are subject to high, very high, or extreme wildfire threat (because of the urban nature of the City), but 11,068 acres are in wildland-urban interface threat areas due to the vast open space on the eastern portion of the City;
- 1,350 acres are in the California Geologic Survey Earthquake Fault Study Zone (for the Hayward fault);
- 1,437 acres are in the California Geologic Survey Earthquake Induced Landslide Study Area; and
- 12,897 acres are in the California Geologic Survey Earthquake Induced Liquefaction Study Area.

- Drought, though a potential problem in the City of Fremont, is not fully assessed. The City will be working with ABAG and the various water supply agencies on this issue.

The City also examined the hazard exposure of infrastructure based on the information on ABAG's website at **http://quake.abag.ca.gov/mitigation/pickdbh2.html**. Of the 717 lane miles of roadway in the City,

- 35 lane miles of roadway are in the 100-year flood plain and an additional 32 lane miles are in other flood-prone areas;
- 454 lane miles of roadway are in an area subject to dam inundation;
- 15 lane miles of roads are in areas of existing landslides;
- 337 lane miles of roadway are in areas of moderate, high, or very high liquefaction susceptibility;
- 710 lane miles of roadway are in the highest two categories of earthquake shaking potential;
- 36 lane miles of roadway are subject to high, very high, or extreme wildfire threat, while 330 lane miles of roads are in wildland-urban interface threat areas;
- 35 lane miles of roadway are in the California Geologic Survey Earthquake Fault Study Zone (for the Hayward fault);
- No lane miles of roadway are in the California Geologic Survey Earthquake Induced Landslide Study Area; and
- 394 lane miles of roadway are in the California Geologic Survey Earthquake Induced Liquefaction Study Areas.
- Drought, though a potential problem in the City of Fremont, is not fully assessed. The City will be working with ABAG and the various water supply agencies on this issue.

Finally, the City examined the hazard exposure of critical health care facilities, schools, and City-owned buildings based on the information on ABAG's website at **http://quake.abag.ca.gov/mitigation/pickcrit.html**. Of the critical facilities in the City,

- No critical health care facilities, schools, or City-owned facilities are in the 100-year flood plain, but one health care facility, two schools, and one City-owned facility are in other flood-prone areas;
- 25 of the 26 critical health care facilities, 40 of the 54 schools, and 27 of the 37 City-owned facilities are in an area subject to dam inundation;
- no critical health care facilities, schools, or City-owned facilities are in areas of existing landslides;
- 13 of the 26 critical health care facilities, 24 of the 54 schools, and 13 of the 37 City-owned facilities are in areas of moderate, high, or very high liquefaction susceptibility;
- all 26 critical health care facilities, all 54 schools, and all 37 City-owned facilities, including every fire station, the police facility and the City Hall, are in the highest two categories of shaking potential;

- 13 of the 26 critical health care facilities, 20 of the 54 schools, and 29 of the 37 City-owned facilities are in wildland-urban interface threat areas, but none are subject to high, very high, or extreme wildfire threat (because of the urban nature of the City);
- 2 of the 26 critical health care facilities, 2 of the 54 schools, and 6 of the 37 City-owned facilities are in the California Geologic Survey Earthquake Fault Study Zone (for the Hayward fault);
- none of the critical health care facilities, schools, and City-owned facilities are in the California Geologic Survey Earthquake Induced Landslide Study Area; and
- 5 of the 26 critical health care facilities, 32 of the 54 schools, and 13 of the 37 City-owned facilities are in the California Geologic Survey Earthquake Induced Liquefaction Study Area.
- Drought, though a potential problem in the City of Fremont, is not fully assessed. The City will be working with ABAG and the various water supply agencies on this issue.

In spite of the areas of the City located in flood-prone areas, there are no repetitive loss properties in the City based on the information at **http://quake.abag.ca.gov/mitigation/pickflood.html.**

As these impacts are not fully developed, Fremont plans to work with ABAG in developing this information. ABAG's Annex specifically states that ABAG will be working to provide more detailed information on impacts from early 2005 through early 2006. The City has reviewed the hazards identified and ranked the hazards based on past disasters and expected future impacts. The conclusion is that earthquakes (particularly shaking), landslides, liquefaction, and flooding are more important than wildfires, tsunamis, and drought.

More specifically, the City plans to work with ABAG during 2005 to improve the risk assessment information being compiled by ABAG by providing information on soft-story apartments located in the City. In 1999, the City passed the Soft-Story Apartment Earthquake Retrofit Ordinance (Ordinance No. 2363), a voluntary ordinance developed to address earthquake hazards of apartments with tuck-under parking that were not specifically designed to consider the effect of reduced stiffness of the building at the ground level due to the parking garage opening. Under this ordinance, the City has identified about 823 units (20 apartment sites) that need retrofitting. So far, approximately 96 have been retrofitted. The City will likely adopt a mandatory program to ensure the retrofitting of the remaining buildings.

In 1995, the City passed the Unreinforced Masonry Building Earthquake Retrofit Ordinance (Ordinance No. 2104), a mandatory ordinance developed to address the earthquake hazards of unreinforced masonry construction. With one exception, all unreinforced masonry buildings in the City of Fremont have been retrofitted. The single exception has an unreinforced masonry veneer and is vacant and fenced. In 2000, the City passed the Tilt-up Building Earthquake Retrofit Ordinance (Ordinance No. 2405), a mandatory ordinance developed to address the earthquake hazards of tilt-up construction. Under this ordinance, the City has identified about 171 sites that need retrofitting. Construction work for the earthquake retrofit of 65 buildings has been completed, and construction on ten buildings is in progress. An additional 13 buildings are currently permitted and pending commencement of construction.

Mitigation Activities and Priorities

As a participant in the ABAG multi-jurisdictional planning process, City of Fremont staff helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. The list was discussed at a meeting of the Risk Manager, Intergovernmental Relations Manager, Fire Division Chief in charge of emergency operations, Public Buildings Superintendent, and Fire Department volunteer on February 2, 2005. Subsequent meetings were held with the City Engineer, Planning Director, and Building Official on February 8 and 9, 2005. At the meeting, staff reviewed the mitigation strategies. The tentative decision on priority was made based on a variety of criteria, not simply on an economic cost-benefit analysis. These criteria include being technically and administratively feasible, politically acceptable, socially appropriate, legal, economically sound, and not harmful to the environment or our heritage.

Over time, we are committed to developing better hazard and risk information to use in making those trade-offs. We are not trying to create a disaster-proof region, but a disaster-resistant one. In addition, several of the strategies are existing City programs.

These draft priorities were submitted to the City Manager for review. The draft priorities were then provided to the City Council on April 22, 2005. The public was provided with an opportunity to comment on the DRAFT priorities. The final strategies (as shown in the attached Table) may become an Implementation Appendix to the City's Safety Element.

In the City of Fremont, many of the mitigation strategies are existing programs already a part of the planning and review process, building and fire code enforcement, and development of the City's General Plan. Any new activities identified as part of this Annex will be incorporated into these existing mechanisms. Other activities will require funds that have not been identified. The City will be working to identify potential funding sources, including capital improvement budgets, bond issues, and federal or state grants.

In addition, the City examined the hazard exposure information to City-owned critical facilities supplied by ABAG. The City has determined that the combination of construction type, age, and shaking exposure to the City's fire stations is significant. Therefore, the City placed a general obligation bond, Measure R, on the November 2002 ballot. Measure R passed by 74.4%. Seven fire stations will be seismically retrofitted, while three fire stations will be replaced instead of retrofitted under this bond measure.

Additionally, the City has capital improvement plan projects for seismic strengthening of the police facility and the development center. The old City Hall was vacated due to life-safety seismic concerns in 2002, but the new City Hall is a tiltup facility that was retrofitted only to life-safe construction and may not be usable in a post-earthquake event. Retrofitting the City Hall, which houses both the Fire Department's administrative offices and the City's emergency operations center, is a potential Pre-Disaster Mitigation Grant application project.

The Plan Maintenance and Update Process

The City Manager's Office will ensure that ***monitoring*** of this Annex will occur. The plan will be monitored on an on-going basis. However, the major disasters affecting our community, legal changes, notices from ABAG as the lead agency in this process, and other triggers will be used. Finally, the Annex will be a discussion item on the agenda of the meeting of City department heads at least once a year in April. At that meeting, the department heads will focus on ***evaluating*** the Annex in light of technological and political changes during the past year or other significant events. This group will be responsible for determining if the plan should be updated.

The City of Fremont is committed to reviewing and updating this plan annex at least once every five years, as required by the Disaster Mitigation Act of 2000. The City Manager or his designee will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the plan update process. If so, the City again plans to participate in the multi-jurisdictional plan. If ABAG is unwilling or unable to act as the lead agency in the multi-jurisdictional effort, other agencies will be contacted, including the County's Office of Emergency Services. Counties should then work together to identify another regional forum for developing a multi-jurisdictional plan.

The ***public*** will continue to be involved whenever the plan is updated, and as appropriate during the monitoring and evaluation process. Prior to adoption of updates, the City will provide the opportunity for the public to comment on the updates. A public notice will be posted prior to the meeting to announce the comment period and meeting logistics.